DRAFT

NAVY TRAINING SYSTEM PLAN

FOR THE

RADAR TRACK DISCRIMINATOR SYSTEMS

AN/UPX-34(V) and AN/UPX-34A(V)

N86-NTSP-S-30-9408A/D

JANUARY 1999

RADAR TRACK DISCRIMINATOR SYSTEMS AN/UPX-34(V) and AN/UPX-34A(V)

EXECUTIVE SUMMARY

This Navy Training Systems Plan (NTSP) identifies manpower, personnel, and training requirements for the Radar Track Discriminator Systems (RTDS) AN/UPX-34(V) and the AN/UPX-34A(V). The RTDS has been designed and developed to provide positive identification of radar tracks beyond visual range. When enabled by the AEGIS Weapon System, the RTDS samples radio frequency signals obtained from host radar system echoes. Using echo characteristics, the RTDS discriminates between aircraft types, classifies the echo source, and identifies the target to the ship's display system.

The AN/UPX-34(V) was an Acquisition Category (ACAT) III program. The program successfully passed Operational Evaluation and Milestone III. Operating prototype systems were deployed on five AEGIS cruisers and at two AEGIS training centers. The production phase was terminated by a NAVCOMPT decision before contract award.

The AN/UPX-34A(V) is an ACAT III program that is a restart of the program, but is a Commercial-Off-The-Shelf (COTS) Non-Developmental Item (NDI) version of the ANUPX-34(V). It will be procured to outfit and support the remaining 22 AEGIS cruisers and three land sites.

Naval Air Warfare Center Aircraft Division (NAWCAD) St. Inigoes will install the AN/UPX-34A(V) onboard ships and at shore sites and will provide technical assistance and initial training. All hardware and software Navy Engineering Technical Services will be accomplished by the NAWCAD St. Inigoes In-Service Engineering Activity. The Navy Support Date (NSD) for the AN/UPX-34A(V) is scheduled for December 2000. Then NSD for the AN/UPX-34(V) was January 1997.

The introductions of the AN/UPX-34A(V) and the AN/UPX-34(V) have no impact on the current manning requirements of the AEGIS class cruisers. Electronic Warfare Technicians (EW) operate the RTDS in conjunction with their normal duties on an as-required basis. Fire Controlman (FC) technicians with Navy Enlisted Classification (NEC) 1106 or 1143 who currently maintain AEGIS Weapons System equipment will maintain the RTDS. No new billets will be required for activities designated to receive the RTDS.

The maintenance concept for the RTDS includes organizational and depot level maintenance. Organizational level maintenance consists of fault isolation and component replacement. Depot level maintenance consists of screening failed components for trends and return of the components to the vendor for repair, overhaul, or replacement.

RADAR TRACK DISCRIMINATOR SYSTEMS AN/UPX-34(V) and AN/UPX-34A(V)

Initial training for the AN/UPX-34(V) has been completed. Initial training for the AN/UPX-34A(V) will be accomplished by NAWCAD St. Inigoes for instructors, fleet maintainers, and operators as the equipment is installed onboard the ship and at shore sites.

Follow-on training for the AN/UPX-34(V) was incorporated into existing courses for maintenance, team training, and officer briefs. The AN/UPX-34A(V) will be included into these same courses in FY00. The impact is expected to be extremely minimal and will be determined following the curriculum development for the AN/UPX-34A(V).

Maintenance training will be provided as part of current AEGIS FC training held at AEGIS Training Center (ATC) Dahlgren, Virginia. Team training is provided for EWs, FCs, and selected Combat Information Center (CIC) officers. These courses are taught by the AEGIS Training and Readiness Center Detachments (ATRCD) on request from the individual command. Proposed Personnel Qualification Standards have been developed by NAWCAD St. Inigoes and will be utilized by EWs in operator training. Officer briefs for the RTDS are conducted at ATC Dahlgren and are included in the courses taught for Combat System Officers, and prospective Commanding Officers and Executive Officers.

RADAR TRACK DISCRIMINATOR SYSTEMS AN/UPX-34(V) and AN/UPX-34A(V)

TABLE OF CONTENTS

	Page
Executive Summary	i
List of Acronyms	iv
Preface	vi
PART I - TECHNICAL PROGRAM DATA	
A. Nomenclature-Title-Program	I-1
B. Security Classification	I-1
C. Manpower, Personnel, and Training Principals	I-1
D. System Description	I-2
E. Developmental Test and Operational Test	I-2
F. Aircraft and/or Equipment/System/Subsystem Replaced	I-2
G. Description of New Development	I-2
H. Concepts	I-4
I. On-Board (In-Service) Training	I-13
J. Logistics Support	I-13
K. Schedules	I-15
L. Government Furnished Equipment and Contractor Furnished Equipment Training Requirements	I-17
M. Related NTSPs and Other Applicable Documents	I-17
PART II - BILLET AND PERSONNEL REQUIREMENTS	II-1
PART III - TRAINING REQUIREMENTS	III-1
PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS	IV-1
PART V - MPT MILESTONES	V-1
PART VI - DECISION ITEMS/ACTION REQUIRED	VI-1
PART VII - POINTS OF CONTACT	VII-1

RADAR TRACK DISCRIMINATOR SYSTEMS AN/UPX-34(V) and AN/UPX-34A(V)

LIST OF ACRONYMS

ACSC	AEGIS Combat Systems Center
ALSP	Acquisition Logistics Support Plan
ATC	AEGIS Training Center
ATRCD	AEGIS Training and Readiness Center Detachment
AWS	AEGIS Weapons System
BIT	Built-In Test
CIC	Combat Information Center
COMOPTEVFOR	Commander, Operational Test and Evaluation Force
COTS	Commercial Off-The-Shelf
CSO	Combat Systems Officer
EW	Electronic Warfare Technician
FC	Fire Controlman
FCS	Fire Control System
GPETE	General Purpose Electronic Test Equipment
IOC	Initial Operating Capability
ISEA	In-Service Engineering Activity
LRU	Line Replaceable Unit
MAM	Maintenance Assist Module
MSD	Material Support Date
NAVAIRSYSCOM	Naval Air Systems Command
NAVICP	Naval Inventory Control Point
NAVSEA	Naval Sea Systems Command
NAWCAD	Naval Air Warfare Center Aircraft Division
NEC	Navy Enlisted Classification
NSD	Navy Support Date
NTSP	Navy Training System Plan
OPEVAL	Operational Evaluation

RADAR TRACK DISCRIMINATOR SYSTEMS AN/UPX-34(V) and AN/UPX-34A(V)

LIST OF ACRONYMS

OPTEVFOR	Operational Test and Evaluation Force
PQS	Personnel Qualification Standards
RTD	Radar Track Discriminator
RTDS	Radar Track Discriminator System
SARTIS	Ships Advanced Radar Tracking and Identification System
TD	Training Device
TECHEVAL	Technical Evaluation
TTE	Technical Training Equipment

RADAR TRACK DISCRIMINATOR SYSTEMS AN/UPX-34(V) and AN/UPX-34A(V)

PREFACE

This Draft Navy Training System Plan (NTSP) was developed to update the Radar Track Discriminator Systems (RTDS) Preliminary Draft NTSP dated September 1998. The RTDS NTSP was updated to comply with guidelines set forth in the Navy Training Requirements Documentation Manual, OPNAV Publication P-751-1-9-97. Specifically, this Draft NTSP reflects the addition of the AN/UPX-34A(V) procurement, revisions to the installation and delivery schedule for the AN/UPX-34(V), establishment of training and logistics support, and updates to the program milestones and points of contact.

PART I - TECHNICAL PROGRAM DATA

A. NOMENCLATURE-TITLE-PROGRAM

1. Nomenclature-Title-Acronym. AN/UPX-34(V) and AN/UPX-34A(V) Radar Track Discriminator Systems (RTDS).

2. Program Element. 64211N

B. SECURITY CLASSIFICATION

1. System Characteristics ..... Unclassified
2. Capabilities ..... Secret
3. Functions..... Unclassified

C. MANPOWER, PERSONNEL, AND TRAINING PRINCIPALS

OPNAV Principal Official (OPO) Program Sponsor..... CNO (N865E)

OPO Resource Sponsor ..... CNO (N865E)

Developing Agency..... NAVAIRSYSCOM (PMA213)

Training Agency ..... CINCLANTFLT
CINCPACFLT
CNET

Training Support Agency..... NAVAIRSYSCOM (PMA205)

Manpower and Personnel Mission Sponsor ..... CNO (N12)
NAVPERSCOM (NPC-4, NPC-406C)

Director of Naval Training ..... CNO (N7)

D. SYSTEM DESCRIPTION. The AN/UPX-34(V) and the AN/UPX-34A(V) are two independent systems that are encompassed by the RTDS program. The AN/UPX-34(V) is an established system, and the AN/UPX-34A(V) system is a new Commercial-Off-The-Shelf (COTS) acquisition that will complete the outfitting of AEGIS Cruisers with a RTDS. Information specific to each individual program will be identified by the system nomenclature. Utilizing RTDS will identify information common to both systems.

1. Operational Uses. The RTDS has been designed and developed to provide positive identification of radar tracks beyond visual range. When enabled by the AEGIS Weapon System, the RTDS samples radio frequency signals obtained from host radar system echoes. Using echo characteristics, the RTDS discriminates between aircraft types, classifies the echo source, and provides the identity of the target to the ship's display system. The AN/UPX-34(V) was installed on five AEGIS Cruisers and two shore facilities.

The AN/UPX-34A(V) will be installed on twenty-two AEGIS cruisers, a test bed at the In-Service Engineering Activity (ISEA) St. Inigoes, Maryland, at the AEGIS Combat Systems Center (ACSC) Wallops Island, Virginia, and one training unit at the AEGIS Training Center (ATC), Dahlgren, Virginia.

2. Foreign Military Sales. NA.

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST. The AN/UPX-34(V) successfully completed a Technical Evaluation (TECHEVAL) at Wallops Island in October 1993. Operational Test and Evaluation Force (OPTEVFOR) conducted operational Evaluation (OPEVAL) in June 1994. Commander, Operational Test and Evaluation Force (COMOPTEVFOR) will participate in the Acceptance Test and Evaluation of the COTS version of the AN/UPX-34A(V). COMOPTEVFOR will perform a Technical Assist (DT-IIIA) during baseline testing of the production contractor's prototype. COMOPTEVFOR will also perform an Operational Assessment (DT-IIIB/DT-IIIA) during acceptance testing of the first article production unit.

F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED. The RTDS presents a new capability; it does not replace current equipment. On current AEGIS applications, a conjunctive ship alteration/ordnance alteration installation will allow shipboard Fire Control System Mk 99 to interface with the RTDS.

G. DESCRIPTION OF NEW DEVELOPMENT

1. Functional Description. When enabled by the AEGIS Weapon System, the Radar Track Discriminator (RTD) samples Radio Frequency (RF) signals obtained from host radar system echoes. Each set of signals is associated with a unique display track number. Using echo characteristics, the RTDS discriminates between possible sources (aircraft types), classifies the

echo source, and provides the identity of the target to the ship's display system, associating the identity with the assigned track number.

2. Physical Description. The AN/UPX-34(V) includes the RTD, a remote display, an electrical rack, and associated waveguides and cabling. The Radar Receiver R-2919/U is combined with the RTDS as part of AEGIS Element 27.

COMPONENT	DEPTH (INCHES)	WIDTH (INCHES)	HEIGHT (INCHES)	WEIGHT (POUNDS)
MX-11504/UPX-34(V) RTD	25.5	19.0	10.5	115.0
ID-2501/UPX-34(V) RTD Display	3.15	11.6.	10.6	13.4
MT-6871/UPX-34(V) Electrical Rack	36.0	23.6	48.0	400.0 (loaded)
R-2919/U Radar Receiver	6.0	30.0	32.0	115

It is anticipated that the AN/UPX-34A(V) hardware will consist of equivalent functional components of the AN/UPX-34(V), which include:

- Radar Track Discriminator Processor (1)
- Display (1)
- Rack, Electrical Equipment (1)
- Radar Receiver (2)

3. New Development Introduction. The AN/UPX-34A(V) will be installed as new production equipment in CG-52 class ships during Routine Overhaul (ROH), Selected Restricted Availability (SRA), or other planned availability. The AN/UPX-34(V) was introduced as new production equipment.

4. Significant Interfaces. RTDS has digital and analog interfaces with AEGIS Fire Control System (FCS) Mk 99. The RTDS receives analog radar target data from FCS via the Radar Receiver (R-2919/U) and digital data from FCS via an AN/UYK-20 computer. This data is processed, forwarded back to FCS, and then sent on to the AEGIS Weapon System. RTDS has the following AEGIS interfaces:

- Two fire control system interfaces; both are MIL-STD-1397 Type A (NTDS slow), sixteen-bit word width

- Radar Interface Unit (RIU), located in the RTD, with two analog RF inputs, 9.7 MHz frequency

5. New Features, Configurations, or Material. The RTD contains core processing boards, a custom interface board, power supplies, and two radar interface units. One RTD operates on target data from two R-2919/U radar receivers.

H. CONCEPTS

1. Operational Concept. Dedicated manning of the RTDS will not be required under any condition of readiness. Electronic Warfare technicians (EW) on an as-required basis will control operation of the system.

2. Maintenance Concept. The maintenance concept for the RTDS includes two levels of maintenance, organizational and depot.

a. Organizational. Organization level maintenance consists of fault isolation to the printed circuit board using systematic fault isolation procedures. Fire Controlman (FC) technicians with Navy Enlisted Classification (NEC) 1106 or 1143 use Maintenance Assist Modules (MAM), General Purpose Electronic Test Equipment (GPETE), and equipment technical manuals to isolate faults and replace failed plug-in modules or chassis-mounted components such as fuses, switches, and lamps.

(1) Preventive Maintenance. Organizational level preventive maintenance actions include periodic cleaning and replacement of air blower filters for the AN/UPX-34(V). Organizational level preventive maintenance actions for the AN/UPX-34A(V) are to be determined.

(2) Corrective Maintenance. The corrective maintenance approach consists of identification of failed Line Replaceable Units (LRU) using Built-In-Test (BIT). Failed LRUs that do not require unsoldering and resoldering are removed and replaced by utilizing onboard spares. Unavailable LRUs may be requisitioned from the designated Navy Inventory Control Point (NAVICP). Organizational level maintenance actions are primarily limited to performance monitoring, fault isolation, and the removal and replacement of failed LRUs. Certain LRUs having Source, Maintainability, and Recoverability (SM&R) code PAODD, in equipment Allowance Parts Lists, are returned to the designated ISEA for test, evaluation, and disposal.

b. Intermediate. NA.

c. Depot. Depot level maintenance includes the screening of failed components to search for failure trends and to search for active warranties, followed by the return of repairable components to COTS vendors for repair, overhaul, or replacement.

d. Interim Maintenance. Naval Air Warfare Center Aircraft Division (NAWCAD) St. Inigoes will install the AN/UPX-34A(V) onboard ships and at shore sites and will provide technical assistance and initial training. All hardware and software Navy Engineering Technical Services will be accomplished by NAWCAD St. Inigoes, ISEA. The Navy Support

Date (NSD) for the AN/UPX-34A(V) is scheduled for December 2000. NSD for the AN/UPX-34(V) was January 1997.

e. Life-Cycle Maintenance Plan. NA.

3. Manning Concept. The introduction of the AN/UPX-34(V) and the AN/UPX-34A(V) to the fleet will have no impact on the current manning requirements to the AEGIS class cruisers as outlined in the AEGIS Combat Systems Navy Training Plan, S-30-8512E/A.

a. Operators. EWs operate the RTDS in conjunction with their normal duties. RTDS operator duties consist of energizing, de-energizing, enabling via variable action buttons, and using target recognition data with existing FCS radar or NTDS displays. The AEGIS Display System provides RTDS data for Combat Information Center (CIC) users such as Anti-Air Warfare coordinators. No new operator billets (officer or enlisted) will be required.

b. Maintainers. FCs who currently maintain AEGIS Weapons System (AWS) equipment also maintain the RTDS. Their maintenance duties include system energizing and de-energizing plus scheduled and non-scheduled maintenance. Troubleshooting actions employ the use of a MAM to determine defective SRUs, which may be replaced with spares drawn from supply. No new billets (officer or enlisted) will be required.

4. Training Concept

a. Initial Training. Initial training for the AN/UPX-34(V) has been completed. Initial training for the AN/UPX-34A(V) will be accomplished by NAWCAD, St. Inigoes for instructors, fleet maintainers, and operators as equipment is installed onboard the ship and at shore sites.

Title	**AN/UPX-34A(V) Operator Training**
Description	Operator familiarization and training on the AN/UPX-34A(V) system and interfaces.
Location	At the installation site
Length	2 days (estimated)
RFT date	FY00
TTE/TD	TTE: AN/UPX-34A(V)
Prerequisites	EW; Combat Systems Officer (CSO)

Title	**AN/UPX-34A(V) Maintenance Training**
Description	Maintenance familiarization and training on the AN/UPX-34A(V) system and interfaces.
Location	At the installation site

Length	2 days (estimated)
RFT date	FY00
TTE/TD	TTE: AN/UPX-34A(V)
Prerequisites	FC with NEC 1106 or 1143

b. Follow-on Training. No new training courses will be required for the RTDS. The AN/UPX-34(V) has been incorporated into the following existing courses for Maintenance, Team training, and Officer briefs. The AN/UPX-34A(V) will be included into these same courses in FY00. The impact is expected to be extremely minimal and will be determined following the curriculum development for the AN/UPX-34A(V). For additional information regarding these courses, refer to the billet and personnel requirements element of the AEGIS Combat Systems Navy Training Plan, S-30-8512E/A.

(1) Maintenance

Title	**AEGIS FCS/ORTS Operation and Maintenance TRK 1**
CIN	S-104-0192
Model Manager ...	ATC Dahlgren
Description	Provides the knowledge and skills required to perform the operation and the organizational level maintenance on the Mk 99 Fire Control System, the Mk 1 Operational Readiness Test System, and the Mk 84 400Hz Power Generation System.
Location	ATC Dahlgren
Length	187 days
RFT date	Currently available
Skill identifier.....	FC with NEC 1106
TTE/TD	TTE: AN/UPX-34(V), AN/UPX-34A(V) in FY00
Prerequisites	A-100-0139, Advanced Electronics Technical Core A-100-0141, Fire Controlman Class A School Strand Secret Clearance

Title	**AEGIS FCS/ORTS Operation and Maintenance TRK 2**
CIN	S-104-0211
Model Manager ...	ATC Dahlgren
Description	Provides the knowledge and skills required to perform the operation and organizational level maintenance on the Mk 99 Fire Control System, the Mk 7 Operational Readiness Test System and the 400Hz Power Generation System.
Location	ATC Dahlgren
Length	166 days
RFT date	Currently available
Skill identifier	FC with NEC 1143
TTE/TD	TTE: AN/UPX-34(V), AN/UPX-34A(V) in FY00
Prerequisites	A-100-0139, Advanced Electronics Technical Core A-100-0141, Fire Controlman Class A School Strand Secret Clearance

(2) Team Training. Team training is provided for the EWs, FCs, and selected officers. These courses are taught by the AEGIS Training and Readiness Center Detachments (ATRCD) on request from the individual commands. The RTDS will have a minimum impact on the following courses:

Title	**AEGIS CIC Team (Precommissioning)**
CIN	S-221-0023
Model Manager ...	ATC Dahlgren
Description	Provides the knowledge and skills required to enable all members of the CIC team to efficiently perform the duties and responsibilities of their assigned stations while operating in a multi-threat environment.
Locations	ATC Dahlgren ATRCD Moorestown, New Jersey ATRCD Wallops Island
Length	12 days
RFT date	Currently available
Skill identifier	None

TTE/TD ..... NA

Prerequisites ..... 1. Graduate of one of the following courses:
   a. S-2F-4607, S-2F-4639 or S-2F-4310, AEGIS PCO/PXO
   b. S-2E-4608, S-2E-4632 or S-2E-1000, AEGIS Combat System Officer
   c. AEGIS CIC Supervisor
   d. Radar System AN/SYP-1 O&M
   e. S-104-0192 or S-104-211, AEGIS FCS/ORTS O&M
   f. S-221-0037 or S-221-0036, AEGIS Console Operator
   g. S-221-0031, AEGIS Training Supervisor
   h. AEGIS Weapons System Supervisor
2. Secret Clearance

Title ..... AEGIS CIC Team (Shipboard)

CIN S-221-0028

Model Manager ... ATC Dahlgren

Description ..... Provides the knowledge and skills required to enable all members of the CIC team to efficiently perform the duties and responsibilities of their assigned stations while operating in a multi-threat environment.

Locations..... The AEGIS CIC Team (Shipboard) is conducted on-board the ship. This training is provided, upon request, from the following sites:

ATRCD San Diego, California
ATRCD Mayport, Florida
ATC Dahlgren
ATRCD Wallops Island
ATRCD Pearl Harbor, Hawaii
ATRCD Yokosuka, Japan
ATRCD Norfolk, Virginia

Length ..... 5 days

RFT date ..... Currently available

Skill identifier ..... None

TTE/TD ..... NA

Prerequisites ..... 1. Officer and enlisted personnel assigned to CG-47 class ships; this course is open to all rates.

2. Graduate of one of the following courses:
   a. S-2F-4607, S-2F-4639 or S-2F-4310, AEGIS PCO/PXO
   b. S-2E-4608, S-2E-4632 or S-2E-1000, AEGIS Combat System Officer
   c. AEGIS CIC Supervisor
   d. Radar System AN/SYP-1 O&M
   e. S-104-0192 or S-104-211, AEGIS FCS/ORTS O&M
   f. S-221-0037 or S-221-0036, AEGIS Console Operator
   g. S-221-0031, AEGIS Training Supervisor
   h. AEGIS Weapons System Supervisor
3. Secret Clearance

Title ..... AEGIS Training Supervisor

CIN S-221-0031

Model Manager ... ATC Dahlgren

Description ..... Provides the trainee with a detailed description of the AEGIS Combat Training System, physical and functional operation, support programs, and interfaces.

Locations..... This training is provided, upon request, from the following sites:

ATRCD San Diego
ATRCD Mayport
ATC Dahlgren
ATRCD Wallops Island
ATRCD Pearl Harbor
ATRCD Yokosuka
ATRCD Norfolk
ATRCD Moorestown

Length ..... 5 days

RFT date ..... Currently available

Skill identifier ..... None

TTE/TD ..... NA

Prerequisites	1. Officer and enlisted personnel (E-5 to E-9) assigned to CG-47 class ships; various combat systems related ratings. 2. S-221-0037, AEGIS Console Operator TRK 2 or S-221-0036, AEGIS Console Operator TRK 1 3. Secret Clearance

(3) Officer Training. Follow-on training operational briefs for the RTDS will be conducted at ATC Dahlgren for CSO, PCO and PXO. The RTDS will have a minimal impact on the following courses:

Title	**AEGIS Combat System Officer (TRK 1)**
CIN	S-2F-4607
Model Manager ...	ATC Dahlgren
Description	Provides the knowledge and skill to perform the duties of the Combat System Officer, Operations Officer, Weapons Officer, CIC Officer, or Fire Control Officer on a Track I AEGIS ship.
Location	ATC Dahlgren
Length	40 days
RFT date	Currently available
Skill identifier.....	NOBC 9258 Weapons Officer (General)
TTE/TD	TTE: AN/UPX-34(V), AN/UPX-34A(V) in FY00
Prerequisites	1. Personnel assigned to a Track I AEGIS ship as Combat System Officer, Operations Officer, Weapons Officer, CIC Officer, Fire Control Officer, Systems Test Officer, and Electronic Material Officer. 2. Graduate of the Surface Warfare Department Head course or Surface Warfare Officer Basic course 3. Secret Clearance

Title	**AEGIS Combat System Officer (TRK 2)**
CIN	S-2F-4639
Model Manager ...	ATC Dahlgren
Description	Provides the knowledge and skill to perform the duties of the Combat System Officer, Operations Officer, Weapons Officer, CIC Officer, or Fire Control Officer on a Track II AEGIS ship.

Location	ATC Dahlgren
Length	40 days
RFT date	Currently available
Skill identifier.....	NOBC 9258 Weapons Officer (General)
TTE/TD	TTE: AN/UPX-34(V), AN/UPX-34A(V) in FY00
Prerequisites	1. Personnel assigned to a Track II AEGIS ship as Combat System Officer, Operations Officer, Weapons Officer, CIC Officer, Fire Control Officer, Systems Test Officer, or Electronic Material Officer 2. Graduate of the Surface Warfare Department Head course or Surface Warfare Officer Basic course 3. Secret Clearance

Title	**AEGIS PCO / PXO (TRK 1)**
CIN	S-2E-4608
Model Manager ...	ATC Dahlgren
Description	Provides prospective Commanding Officers and Executive Officers with a common level understanding of the operational characteristics, capabilities, limitations, and administrative requirements of a Track I AEGIS Ship Combat System.
Location	ATC Dahlgren
Length	33 days
RFT date	Currently available
Skill identifier.....	None
TTE/TD	TTE: AN/UPX-34(V), AN/UPX-34A(V) in FY00
Prerequisites	1. Prospective Commanding Officer or Executive Officer destined for assignment to a Track I AEGIS Ship. 2. Secret Clearance

Title	**AEGIS PCO / PXO (TRK 2)**
CIN	S-2E-4632
Model Manager ...	ATC Dahlgren
Description	Provides prospective Commanding Officers and Executive Officers with a common level understanding of the operational characteristics, capabilities, limitations, and administrative requirements of a Track II AEGIS Ship Combat System.
Location	ATC Dahlgren
Length	33 days
RFT date	Currently available
Skill identifier.....	None
TTE/TD	TTE: AN/UPX-34(V), AN/UPX-34A(V)
Prerequisites	1. Prospective Commanding Officer or Executive Officer destined for assignment to a Track II AEGIS Ship. 2. Secret Clearance

c. Student Profiles

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
FC	° A-100-0139, Advanced Electronics Technical Core ° A-100-0141, Fire Controlman Class (A) School S ° Secret Clearance

d. Training Pipelines. No new training tracks will be required for the AN/UPX-34A(V). Information will be included in the courses listed above. Increases in course length will be determined following the development of the curricula required. This information will be included in future updates to this NTSP.

I. ON-BOARD (IN-SERVICE) TRAINING

1. Personnel Qualification Standards. Proposed Personnel Qualification Standards (PQS) have been developed by NAWCAD St. Inigoes and are in review at ATC Dahlgren. Electronic Warfare Supervisor Console Ships Advanced Radar Systems Operator PQS will be utilized by EWs in operator training.

J. LOGISTICS SUPPORT

1. Manufacturer and Contract Numbers

CONTRACT NUMBER	MANUFACTURER	ADDRESS
N00140-90-C-0821, AN/UPX-34(V)	Scope Inc.	Reston, Virginia
N00019-98-C-0059, AN/UPX-34A(V)	Condor	Sperling, Virginia

2. Program Documentation

TECHNICAL DOCUMENT	DOCUMENT NUMBER	STATUS
Acquisition Logistics Support Plan	ALSP-ATC-003	Approved, Dec 1997

3. Technical Data Plan. NAWCAD St. Inigoes, completed formal development of the MX-11504/UPX-34(V) technical manuals. Naval Surface Warfare Center (NSWC) Pt. Hueneme is developing a Radar Receiver R-2919/U technical manual. NSWC Dahlgren is developing a system technical manual.

TITLE	PUBLICATION NO.	DATE
Organizational Level Maintenance, MX-11504/UPX-34(V) Discriminator, Radar Track	NAVAIR 16-65MX11504-1	15 Apr 92
Operational Supplement NCTR Processing(U) MX-11504/UPX-34(V) Discriminator, Radar Track	NAVAIR 16-65MX11504-1S	24 Jul 92
Operations and Organizational Level Maintenance, Radar Track Discriminator Rack MT-6871/ UPX-34(V)	NAVAIR 16-65MT6871-1	15 Feb 92
Radar Receiver R-2919/U Operation, Description,	SE200-AF-MMO-010	1 Jan 92

TITLE	PUBLICATION NO.	DATE
and Maintenance		
System Manual, Ships Advanced Radar Target Identification System Description, Operation and Maintenance	SW272-AG-AEG-010-/SARTIS SY	1 Oct 92

The production contractor will integrate COTS technical manuals into an overall AN/UPX-34A(V) system level technical manual. NAWCAD St. Inigoes ISEA will develop organizational level technical manuals for the AN/UPX-34A(V). In addition, the production contractor will provide an Operational and Maintenance Procedures manual for any non-COTS components. The manual will have a classified section that includes and updates information in the classified portion of the MX-11504/UPX-34(V) technical manual. NAWCAD St. Inigoes will develop a depot level technical manual if required. NAWCAD St. Inigoes will accomplish technical manual verification during the production contract first article acceptance.

4. Test Sets, Tools, and Test Equipment. The AN/UPX-34(V) requires special tools consisting of MAMs with module extender cards. The following General Purpose Electronic Test Equipment (GPETE) is required: AN/USM-425(V) Oscilloscope, 8000A Digital Multimeter, AN/USM-207A Electronic Counter, SG-132 Sweep Generator, and 280-6XLP Multimeter.

The AN/UPX-34A(V) will be designed to preclude requirements for Special Purpose Electronic Test Equipment, Automatic Test Equipment, and Test Program Sets. NAWCAD St. Inigoes has identified one potential item of GPETE for use with the AN/UPX-34A(V). This item, a general shipboard use multimeter, may be used to check voltage and resistance.

5. Repair Parts. Interim repair parts kits have been procured from equipment manufacturers to support the RTDS installation and will be converted to on-board repair parts. A rotatable pool of spares will be maintained at ISEA, St. Inigoes. Once the Material Support Date (MSD) is reached, NAVICP will assume full responsibility for budgeting, procurement, receipt, issuance, stocking, repair, and modification of parts, publication of allowance lists, pipeline support, and replenishment of spare and repair parts. The MSD for the AN/UPX-34A(V) is scheduled for December 2000. The MSD for the AN/UPX-34(V) was in January 1997.

6. Human Systems Integration. Human systems engineering for the AN/UPX-34A(V) will be per the Human System Integration Plan developed by NAWCAD St. Inigoes for the AN/UPX-34(V).

K. SCHEDULES

1. Installation and Delivery Schedules. The AN/UPX-34(V) has been installed at the following two shore sites and five ships.

- ACSC Wallops Island
- ATC Dahlgren
- CG-47 USS Ticonderoga
- CG-48 USS Yorktown
- CG-49 USS Vincennes
- CG-50 USS Valley Forge
- CG-51 USS Thomas S. Gates

The AN/UPX-34A(V) will be installed at the following three shore sites and 22 ships by NAWCAD St. Inigoes. During the first six months of the installation schedule, the cables, connectors, and changes to the ship required in the ShipAlt for AN/UPX-34A(V) will be installed. Upon receipt of the equipment from the production contractor, NAWCAD St. Inigoes will back fit the early install ships with the hardware. Installation of the equipment on the ships will take approximately one day. Operational testing of the equipment is expected to take two days and then approximately two days will be required for initial ship training.

AN/UPX-34A(V) INSTALLATION SCHEDULE

ACTIVITY	INSTALLATION START DATE
CG-59 USS Princetown	October 1999
CG-58 USS Philippine Sea	November 1999
CG-64 USS Gettysburg	December 1999
CG-55 USS Leyte Gulf	January 2000
CG-72 USS Vella Gulf	January 2000
CG-62 USS Chancellorsville	February 2000
CG-65 USS Chosin	February 2000
CG-70 USS Lake Erie	March 2000
ACSC Wallops Island	March 2000
ATC Dahlgren	March 2000
NAWCAD St. Inigoes	March 2000
CG-66 USS Hue City	June 2000

ACTIVITY	INSTALLATION START DATE
CG-69 USS Vicksburg	June 2000
CG-57 USS Lake Champlain	September 2000
CG-61 USS Monterey	October 2000
CG-73 USS Port Royal	October 2000
CG-53 USS Mobile Bay	November 2000
CG-54 USS Antietam	November 2000
CG-60 USS Normandy	November 2000
CG-52 USS Bunker Hill	April 2001
CG-63 USS Cowpens	April 2001
CG-67 USS Shiloh	April 2001
CG-56 USS San Jacinto	June 2001
CG-68 USS Anzio	June 2001
CG-71 USS Cape St. George	September 2001

2. Ready For Operational Use Schedule. The AN/UPX-34A(V) will be ready for operational use following the installation, verification, and initial training by NAWCAD St. Inigoes.

3. Time Required to Install at Operational Sites. The AN/UPX-34A(V) is expected to take approximately three weeks to install.

4. Foreign Military Sales and Other Source Delivery Schedule. NA.

5. Training Device and Technical Training Equipment Delivery Schedule. The AN/UPX-34(V) has been installed at ATC Dahlgren and ACSC Wallops Island. The AN/UPX-34A(V) is scheduled for installation at the following training sites:

TECHNICAL TRAINING EQUIPMENT	ACTIVITY	DATE	TIME REQUIRED TO INSTALL
AN/UPX-34A(V)	ATC Dahlgren	FY00	3 weeks
AN/UPX-34A(V)	ACSC Wallops Island	FY00	3 weeks

L. GOVERNMENT FURNISHED EQUIPMENT AND CONTRACTOR FURNISHED EQUIPMENT TRAINING REQUIREMENTS. NA.

M. RELATED NTSPs AND OTHER APPLICABLE DOCUMENTS

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
AIMS MK XII Identification Friend or Foe (IFF) Navy Training System Plan	E-30-7115E/D	AIR-555	Draft, Jan 99
CG-47 Class Guided Missile Cruiser Navy Training Plan	S-30-7707F		Approved, Jan 92
AEGIS Combat Systems Navy Training Plan	S-30-8512E/A		Approved, Jul 97

PART II - BILLET AND PERSONNEL REQUIREMENTS

The following elements are not affected by the RTDS and, therefore, are not included in Part II of this NTSP:

II.A. BILLET REQUIREMENTS. No new billets are required, nor will any billets be phased out, so there is no net increase or decrease. Existing FCs and EWs will maintain and operate the RTDS system in addition to their current duties. There will be no equipment phase out.

II.B. PERSONNEL REQUIREMENTS. There are no changes to the Annual Training Input Requirements. The impact on the RTDS courses will be determined following completion of the curriculum development for the AN/UPX-34A(V) and will be included in future updates to this NTSP**.**

PART III - TRAINING REQUIREMENTS

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: AN/UPX-34A(V) Maintenance Training
COURSE DEVELOPER: ISEA St. Inigoes
COURSE INSTRUCTOR: ISEA St. Inigoes
COURSE LENGTH: 2 Days

LOCATION, UIC	BEGIN DATE	STUDENTS OFF	STUDENTS ENL	STUDENTS CIV		
At installation site, 00000	Jan 00	2	2		Input AOB Chargeable	**ACTIVITY DESTINATIONS** ATC Dahlgren USS Antietam USS Anzio USS Bunker Hill USS Cape St. George USS Chancellorsville USS Chosin USS Cowpens USS Gettysburg USS Hue City USS Lake Champlain USS Lake Erie USS Leyte Gulf USS Mobile Bay USS Monterey USS Normandy USS Philippine Sea USS Port Royal USS Princetown USS San Jacinto USS Shiloh USS Vella Gulf USS Vicksburg

COURSE TITLE: AN/UPX-34A(V) Operator Training
COURSE DEVELOPER: ISEA St. Inigoes
COURSE INSTRUCTOR: ISEA St. Inigoes
COURSE LENGTH: 2 Days

LOCATION, UIC	BEGIN DATE	STUDENTS OFF	STUDENTS ENL	STUDENTS CIV		
At the installation site, 00000	Jan 00	2	2		Input AOB Chargeable	**ACTIVITY DESTINATIONS** ACSC Wallops Island USS Antietam USS Anzio USS Bunker Hill USS Cancellorsville USS Cape St. George USS Chosin USS Cowpens

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: AN/UPX-34A(V) Operator Training
COURSE DEVELOPER: ISEA St. Inigoes
COURSE INSTRUCTOR: ISEA St. Inigoes
COURSE LENGTH: 2 Days

ACTIVITY DESTINATIONS

USS Gettysburg
USS Hue City
USS Lake Champlain
USS Lake Erie
USS Leyte Gulf
USS Mobile Bay
USS Monterey
USS Normandy
USS Philippine Sea
USS Port Royal
USS Princetown
USS San Jacinto
USS Shiloh
USS Vella Gulf
USS Vicksburg

III.A.2. FOLLOW-ON TRAINING

AN/UPX-34(V) maintenance training has been incorporated into the courses taught at ATC Dahlgren. Follow-On training for the AN/UPX-34A(V) will be incorporated into the courses following curricula development and will be included in future updates to this NTSP.

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

The following NTSP elements are not affected by the RTDS and are not included:

IV.A.2 TRAINING DEVICES

IV.C FACILITY REQUIREMENTS

Note: Training Logistics Support Requirements for the AN/UPX-34A(V) will be included in future updates to this NTSP when the information becomes available.

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

IV.A. TRAINING HARDWARE
IV.A.1. TTE / GPTE / SPTE / ST / GPETE / SPETE

CIN, COURSE TITLE: S-104-0192, AEGIS FCS / ORTS Operation And Maintenance TRK 1
TRAINING ACTIVITY: AEGIS Training and Readiness Center
LOCATION, UIC: Dahlgren, Virginia, 45541

ITEM NUMBER	EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS	QTY REQD	DATE REQD	GFE CFE	STATUS
TTE					
1	FCS Computer	1	Oct 92	GFE	On board
2	C & D Computer	1	Oct 92	GFE	On board
3	WCS Computer	1	Oct 92	GFE	On board
4	R-2919/U Radar Receiver	1	Oct 92	GFE	On board
5	MT-11504/UPX-34(V) RTD	1	Jan 94	GFE	On board
6	MT-6871/UPX-34 Rack	1	Jan 94	GFE	On board
7	MK 99 Illuminator	1	Oct 92	GFE	On board
8	ID-2501/UPX-34 Display	1	Jan 94	GFE	On board
GPETE					
9	AN/USM-425(V) Oscilloscope	8	Jan 94	GFE	On board
10	8000A Digital Multimeter	8	Jan 94	GFE	On board
11	AN/USM-207A Elec Counter	8	Jan 94	CFE	On board
12	SG-132 Sweep Generator	8	Jan 94	GFE	On board
13	280-6XLP Multimeter	8	Jan 94	GFE	On board

IV.B. COURSEWARE REQUIREMENTS

IV.B.1. TRAINING SERVICES

COURSE / TYPE OF TRAINING	SCHOOL LOCATION, UIC	DATE BEGIN	NO. OF PERSONNEL	MAN WEEKS REQUIRED
AN/UPX-34A(V) Maintenance Training	At installation site, 00000	Jan 00	1	0.4
AN/UPX-34A(V) Operator Training	At installation site, 00000	Jan 00	1	0.4

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

CIN, COURSE TITLE: S-104-0192, AEGIS FCS / ORTS Operation And Maintenance TRK 1
TRAINING ACTIVITY: AEGIS Training and Readiness Center
LOCATION, UIC: Dahlgren, Virginia, 45541

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Instructor Guide	2	May 93	On board
Personnel Performance Profile Training Path	2	May 93	On board
System Matrix	2	May 93	On board
Tests for Measure of Student Achievement	2	May 93	On board
Topic Learning Objectives	2	May 93	On board
Topic Outline	2	May 93	On board
Trainee Guide	10	May 93	On board

IV.B.3. TECHNICAL MANUALS

CIN, COURSE TITLE: S-104-0192, AEGIS FCS / ORTS Operation And Maintenance TRK 1
TRAINING ACTIVITY: AEGIS Training and Readiness Center
LOCATION, UIC : Dahlgren, Virginia, 45541

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
NAVAIR 16-65MT6871-1 Operations and Organizational Level Maintenance, Discriminator, Radar Track	Hard copy	20	May 93	On board
NAVAIR 16-65MX11504-1 Organizational Level Maintenance, MX-11504/UPX-34(V) Discriminator, Radar Track	Hard copy	20	May 93	On board
NAVAIR 16-65MX11504-1S Operational Supplement NCTR Processing Discriminator, Radar Track	Hard copy	20	May 93	On board
SE200-AFMMO-010 Radar Receiver R-2919/U Operation, Description, and Maintenance	Hard copy	20	May 93	On board

PART V - MPT MILESTONES

COG CODE	MPT MILESTONES	DATE	STATUS
PDA	Awarded Production Contract for the AN/UPX-34(V)	Mar 90	Completed
DA	Conducted analysis of manpower, personnel, and training requirements for the AN/UPX-34(V)	Apr 90	Completed
TSA	Awarded factory training and curriculum material contract for the AN/UPX-34(V)	Sep 92	Completed
TSA	Conducted Initial Training for the AN/UPX-34(V)	Dec 92	Completed
TSA	Delivered Technical Training Equipment for the AN/UPX-34(V)	Jan 93	Completed
DA	Distributed Draft NTP for the AN/UPX-34(V)	Feb 93	Completed
PDA	Fleet introduction for the AN/UPX-34(V)	Mar 93	Completed
TSA	Began Follow-on Training for the AN/UPX-34(V)	Mar 93	Completed
TSA	Delivered curricula materials for the AN/UPX-34(V)	Mar 93	Completed
OPTEVFOR	Conducted OPEVAL for the AN/UPX-34(V)	May 94	Completed
DCNO	Approved and Promulgated NTP for the AN/UPX-34(V)	Jun 94	Completed
PDA	Achieved NSD for AN/UPX-34(V)	Jan 97	Completed
DA	Distribute Draft NTSP, including the AN/UPX-34A(V)	Jan 99	Completed
PDA	Fleet Introduction for the AN/UPX-34A(V)	FY00	
TSA	Begin Initial training for the AN/UPX-34A(V)	FY00	
TSA	Deliver curricula material for the AN/UPX-34A(V)	FY00	
TSA	Deliver Technical Training Equipment for the AN/UPX-34A(V)	FY00	
PDA	Achieve NSD for AN/UPX-34A(V)	Dec 00	

PART VI - ACTION ITEMS / ACTION REQUIRED

ACTION ITEM OR ACTION REQUIRED	COMMAND ACTION	DUE DATE	STATUS

None.

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
CAPT A. Hicks Head, Plans, Policy, and Fleet Maintenance Support CNO, N865E brad.hicks@hq.navy.mil	**COMM:** (703) 695-2079 **DSN:** 225-2079 **FAX:** (703) 693-4259
Mr. R. Zweibel Training Technology Policy CNO, N751 zweibel.robert@hq.navy.mil	**COMM:** (703) 614-1344 **DSN:** 224-1344
CDR P. Kessler Surface Warfare Training Requirements CNO, N869T2 kessler.phillip@hq.navy.mil	**COMM:** (703) 604-7635 **DSN:** 664-7635 **FAX:** (703) 604-6934
CDR T. O'Loughlin Battle Forces Manpower CNO, N12	**COMM:** (703) 695-3113 **DSN:** 225-3113 **FAX:** (703) 614-5308
CAPT J. Campbell Program Manager NAVAIRSYSCOM, PMA213 campbellj@navair.navy.mil	**COMM:** (301) 862-6301 **DSN:** NA **FAX:** (301) 862-6328
Mr. Ron Smith Assistant Program Manager Logistics NAVAIRSYSCOM, AIR 3.1.4B	**COMM:** (301) 862-6310 **DSN:** NA **FAX:** (301) 862-6328
ACCM H. McGrath Assistant Program Manager, Training Systems NAVAIRSYSCOM, PMA205-3B1 mcgrathhj@navair.navy.mil	**COMM:** (301) 757-8126 **DSN:** 757-8126 **FAX:** (301) 757-6945
CDR E. Hawkins NTSP Manager CINCLANTFLT, N-721 hawkinsel@clp.navy.mil	**COMM:** (757) 445-7853 **DSN:** 565-7853
LT C. Presley Fleet Training and Readiness Coordinator CINCPACFLT, N-343 s341@cpf.navy.mil	**COMM:** (808) 474-6965 **DSN:** 474-6965 **FAX:** (808) 471-5451
LT W. Harrison PQS Development NETPMSA Pensacola, 034	**COMM:** (850) 452-1035 **DSN:** 452-1035

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
CAPT R. Gibson Deputy Assistant, Chief of Naval Personnel for Distribution NAVPERSCOM, NPC 4B, 4b@persnet.navy.mil	**COMM:** (901) 874-3529 **DSN:** 882-3529 **FAX:** (901) 874-2606
LT C. Aycock Ratings Assignment Officer NPC 406C p406c@persnet.navy.mil	**COMM:** (901) 874-3777 **DSN:** 882-3777
Mr. Fuad Bouhussein Section Head for Combat ID Systems NAWCAD St. Inigoes fuad_bouhussein@idsmail.combat-edt.navy.mil	**COMM:** (301) 862-8213 **DSN:** NA **FAX:** (301) 862-6006
Mr. Thuy Le SARTIS Project Engineer NAWCAD St. Inigoes thuy_le@idsmail.combat-edt.navy.mil	**COMM:** (301) 862-6104 **DSN:** NA **FAX:** (301) 862-8718
Mr. Tod Shuck SARTIS Project Engineer NAWCAD St. Inigoes tod_shuck@idsmail.combat-edt.navy.mil	**COMM:** (301) 862-8327 **DSN:** NA **FAX:** (301) 862-6006
Mr. Phil Szczyglowski Competency Manager NAVAIRSYSCOM, AIR 3.4.1 szczyglowspr@navair.navy.mil	**COMM:** (301) 757-9182 **DSN:** 757-9182 **FAX:** (301) 342-4723
AVCM Roger Lovern NTSP Manager NAVAIRSYSCOM, AIR 3.4.1 lovernre@navair.navy.mil	**COMM:** (301) 757-9183 **DSN:** 757-9183 **FAX:** (301) 342-4723
ATCS Steve Worthen NTSP Coordinator NAVAIRSYSCOM, AIR 3.4.1 worthensw@navair.navy.mil	**COMM:** (301) 757-9194 **DSN:** 757-9194 **FAX:** (301) 342-4723
AEC Bruce Koep Manpower and Training Analyst (NTSP Author) NAVAIRSYSCOM, AIR 3.4.1 koepba@navair.navy.mil	**COMM:** (301) 757-9196 **DSN:** 757-9196 **FAX:** (301) 342-4723